CLAIMS

I claim:

1. A process for producing a heat insulating barrier which comprises:

A) mixing into a resinous emulsion at room temperature a fire retardant until homogeneity is obtained;

B) mixing expandable graphite at room temperature with the product of step A) until a homogeneous paste is obtained;

C) extruding the composition of step B) at room temperature;

D) drying the product of step C)

wherein the amount of expandable graphite in the product prior to extrusion is between from about 5 to about 95% by weight, the amount of fire retardant in the product prior to extrusion is between from about 1 to about 70% by weight and the amount of resinous emulsion in the product prior to extrusion is between from about 25 to about 90% by weight.

2. The process of Claim 1, wherein the resinous emulsion of step A) further comprises a defoamer wherein the amount of defoamer in the product prior to extrusion is between from 1 to about 50% by weight.

3. The process of Claim 1, wherein the resinous emulsion of step A) further comprises an intumescent inorganic filler wherein the amount of inorganic intumescent filler in the product prior to extrusion is between from about 1 to about 50% by weight.

4. The process of Claim 1, wherein the resinous emulsion of step A) further comprises a surfactant wherein the amount of surfactant in the product prior to extrusion is between from about 1 to about 50% by weight.

5. The process of Claim 1, wherein the fire retardant is a phosphate.

6. The process of Claim 5, wherein the phosphate is a C_2-C_8 alkyl diamine phosphate.

7. The process of Claim 1, wherein the expandable graphite contains NOx or SOx.

8. The process of Claim 6, wherein the flame retardant is ethylene diamine acid phosphate.

9. The process of Claim 1, wherein the composition is extruded onto a flexible substrate.

10. The process of Claim 9, wherein the flexible substrate is selected from wax paper, polyester, polyurethane, mineral wool, polyethylene film, polypropylene film or is cementitious.

11. The process of Claim 3, wherein the intumescent inorganic filler is clay.

12. The process of Claim 1, wherein drying is conducted at room temperature.

13. The process of Claim 1, wherein drying is by the addition of a chemical drying agent to the composition prior to extrusion.

14. The process of Claim 1, wherein drying is by microwave irradiation.

15. A process for producing a heat insulating barrier which comprises:

A) dispersing into a resinous emulsion a C_2-C_8 alkyl diamine phosphate;

B) mixing expandable graphite with the product of step A) until a homogeneous paste is obtained;

C) extruding the composition of step B) at room temperature;

D) drying the product of step C);

wherein the amount of expandable graphite in the product prior to extrusion is between from about 5 to about 95% by weight, the amount of fire retardant in the product prior to extrusion is between from about 1 to about 70% by weight and the amount of resinous emulsion in the product prior to extrusion is between from about 25 to about 90% by weight.

16. The process of Claim 15, wherein the composition is extruded onto a flexible substrate.

17. The process of Claim 15, wherein the C_2-C_8 alkyl diamine phosphate is ethylene diamine acid phosphate.

18. The process of Claim 16, wherein the flexible substrate is wax paper, polyester, polyurethane, mineral wool, polyethylene film, polypropylene film or is cementitious.

19. The process of Claim 15, wherein subsequent to step C), a flexible protective sheath is applied onto the extruded layer.

20. The process of Claim 15, wherein drying is conducted at room temperature.